

TMI prefilters successfully disposed of at Wash. site

EG&G Idaho recently demonstrated a successful solution to the dilemma of how to dispose of the EPICOR-II prefilters, highly radioactive containers of mixed bed ionic exchange resins, from Three Mile Island's Unit 2 reactor.

Instituting a first-of-its-kind system, High Integrity Containers were designed and constructed, analyzed and tested, and have met federal and state regulations for safe disposal of the prefilters.

A demonstration HIC was successfully disposed of at the U.S. Ecology site near Hanford, Wash. this past spring.

The prefilters, when contained in this HIC, are rated as Class C low-level radioactive waste, the highest level waste being disposed at this time, says John McConnell, project engineer for the HIC disposal campaign. Dick Schmitt, TMI-II projects manager in the TMI Technical Support Branch, and Ray Chapman, senior project engineer in the Project and Engineering Support Division, directed the design and construction of the HICs. The actual design was provided by Nuclear Packaging Company, Tacoma, Wash., with EG&G Idaho and other peer groups making the specifications.

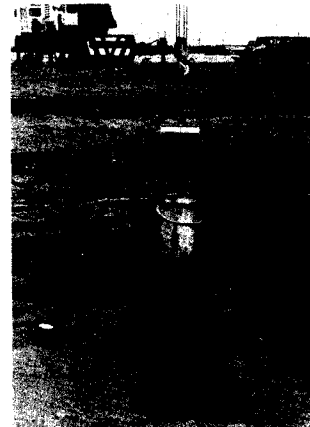
"The disposal of the first High Integrity Container culminated three years of design, analysis, testing and coordinating of use agreements," says Schmitt. "We accomplished an outstanding achievement just by getting the state of Washington and the Nuclear Regulatory Commission to agree that this kind of design and construction was possible," adds McConnell.

Analysis of the container has shown it will maintain its integrity for more than 300 years, which is the design goal stated in NRC position paper and state of Washington criteria for HICs.

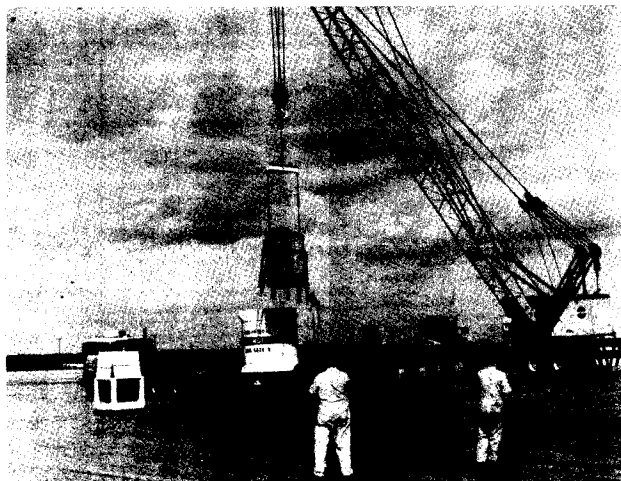
The HICs are 64 inches in diameter, 84 inches tall and have six-inch reinforced concrete walls that are lined with phenolic-coated steel to prevent leakage. The covers are grouted in place with epoxy, a design provision to allow loading in the field. No bolts are used in the construction of the covers, which, according to McConnell, is a different construction idea in itself.

Schmitt credits several groups for the successful completion of this project: EG&G Idaho's Technical Integration Office at TMI where the project was conceived and where continuing and successful negotiations with GPUNC were conducted; TAN 607 Hot Shop personnel where the operations are performed in preparing the units for disposal; and DOE and EG&G Idaho engineering personnel who coordinated the efforts of the many entities, subcontractors and organizations across the country involved in the project.

There are 49 more prefilters at the INEL that must be disposed. The majority of those will be shipped to the commercial disposal facility in Washington over the next 12 months. The prefilters are being kept in shielded storage silos in the Test Area North Hot Shop until they are shipped. EG&G Idaho expects to maintain four of the prefilters for up to 10 years to be used in resin research activities directed by McConnell.



THE EPICOR-II HIC is lowered into the burial trench at the U.S. Ecology site near Hanford, Wash. (Photo by John McConnell, EG&G Idaho.)



U.S. ECOLOGY WORKERS remove the EPICOR-II HIC from the shipping cask at the disposal site. (Photo by John McConnell, EG&G Idaho.)

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